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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/759,241	01/16/2001	Yi Li	401030	1010

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EXAMINER

WACHTEL, ALEXIS A

ART UNIT	PAPER NUMBER
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1771

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DATE MAILED: 12/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/759,241

Applicant(s)

LI ET AL.

Examiner

Alexis Wachtel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 January 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

***Detailed Action***

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,6,8 and 9 rejected under 35 U.S.C. 102(a) as being anticipated by US 2002/0064639A1 to Rearick et al.

Rearick et al teaches that it is desirable for performance apparel to make use of fabrics with wicking properties whereby moisture is wicked from the skin to the outside of a garment where the moisture may be evaporated (pp.1, [004], lines 1-15). In addition, it is known to use hydrophobic synthetic fibers in apparel whereby a variety of chemical finishes can be used to produce wicking in normally hydrophobic thermoplastics synthetic garments. The wicking finishes do not penetrate into typical hydrophobic fibers such as polyester. Said wicking finishes are essentially coatings and are very hydrophilic (pp.1 [0006], lines 1-16). Performance or recreational apparel includes garments such as t-shirts and running shorts (pp.1, [0009], lines 1-6). Examiner notes that running pants are also very well known examples of recreational apparel.

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3. Claims 1 and 5 are rejected under 35 U.S.C. 102(a) as being anticipated by US 2002/0165511 to Bast et al.

With regards to the preamble statement "a re-usable diaper" per claim 4, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

Bast et al is directed to diaper constructions teaches that known topsheets in the diaper art typically include a first and secondary topsheet wherein the first topsheet is hydrophobic and the secondary topsheet is hydrophilic. Below the top sheet is an absorbent core. This arrangement allows for moisture to wick from the first topsheet to the second topsheet (pp.1, [0005], lines 1-7, [0006], lines 1-6). Diapers typically have a waterproof backsheet that prevents exudates absorbed and contained in a diaper core from soiling articles which may contact a diaper (pp.3, [0038], lines 1-8).

4. Claims 1,3,4,5,6,7 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 0496567A2 to Heiman.

Heiman discloses a reusable diaper and an incontinent pad (pp. 2, lines 1-4). Examiner notes that clothing broadly reads on a diaper of any sort. The diaper has a fabric contained therein having separate hydrophobic and hydrophilic properties and comprises a top portion and a bottom portion. The top portion is hydrophobic and wicks liquid from the upper surface of the fabric to a central portion, wherein the central portion which is the interface where the top and bottom portions are intermeshed (pp.5,

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lines 16-24). Examiner notes that the top portion is most proximate to the user's skin. Treated polyester may be used as the hydrophilic material for the bottom portion (pp.3, lines 15-23). Cotton may be used as the hydrophilic material for the bottom portion as well (pp.5, lines 49 and 50). Since the cotton would extend up from the bottom portion up to a boundary interface between the top portion, it is reasonable to say that a cotton middle layer exists between the top and bottom portions. Since cotton and treated polyester were identified as equivalent with respects to their hydrophilicity, using a mixture of cotton and treated polyester fiber is clearly enabled. A barrier sheet may be attached to the diaper on the bottom portion to prevent urine from flowing through (pp.2, lines 35-44).

In addition, Heiman discloses an incontinent pad comprising a hygienic panel and an underlying barrier sheet (pp.6, lines 7-17). Examiner notes that the hygienic panel has the same structure as the diaper fabric disclosed above.

5. Claims 1,3 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5,735,145 to Pernick.

Pernick teaches a multi layer weft knit fabric for absorbing moisture and wicking it from a first fabric layer to a second fabric layer. Said fabric includes a first hydrophobic layer and a second hydrophilic layer (Abstract). Said fabric is useful as an incontinent mattress pad (Col 3, line 10). The hydrophilic layer can be made of cotton (Col 3, lines 38-40).

***Claim Rejections - 35 USC § 103***

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6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,185,011 to Strasser et al in view of US 2002/0165511 A1 to Bast et al.

Strasser et al teaches a reusable diaper is constructed with three layers: an outer layer which is made of garment cloth, a middle layer which is the second layer of waterproff and non-wicking material, and an inner layer or first layer which is a diaper cloth pad with a waterproof non-wicking border edge (Col 2, lines 38-43). Said first layer has a core made of washable absorbent material (Col 3, lines 8-25). Said core can be made of cotton (Col 8, lines 24-27).

Strasser et al as set forth above fails to teach that the first layer has hydrophobic and hydrophilic top sheet on top of said first layer. Bast et al is directed to diaper constructions teaches that known topsheets in the diaper art typically include a first and secondary topsheet wherein the first topsheet is hydrophobic and the secondary topsheet is hydrophilic. Below the top sheet is an absorbent core. This arrangement allows for moisture to wick from the first topsheet to the second topsheet and to the core (pp.1, [0005], lines 1-7, [0006], lines 1-6). Examiner notes that topsheets serve to provide comfort to a diaper wearer by facilitating the flow of moisture from the hydrophobic to the hydrophilic layer, then from the hydrophilic layer to the absorbent layer. Since the first layer of Strasser et al's diaper has an absorbent core, it would have

been obvious for one of ordinary skill in the art to have provided a topsheet on top of the first layer motivated by the desire to provide comfort to the diaper wearer as well as to facilitate rapid moisture management by wicking means.

8. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2002/0165511 A1 to Bast et al in view of US 6,436,081B1 to Wada et al.

Bast et al as set forth above fails to teach that the hydrophilic layer is made of polypropylene rendered hydrophilic. Wada et al is directed to diaper constructions and teaches that it is known to render hydrophilic inherently hydrophobic materials such as polypropylene and polyester (Col 5, lines 20-25). As such, from a hydrophilic performance standpoint, hydrophilically treated materials such as polypropylene and polyester are equally suitable for any application in the diaper art requiring the use of hydrophilic materials. In view of the foregoing disclosure, it would have been obvious for one of ordinary skill in the art to have utilized hydrophilically treated materials such as polypropylene and polyester to make the hydrophilic top sheet motivated by the desire to make use of a readily available and cost effective material.

10. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0496567A2 to Heiman in view of US 6,436,081B1 to Wada et al.

Heiman as set forth above fails to teach that the hydrophilic layer is made of polypropylene rendered hydrophilic. Wada et al is directed to diaper constructions and teaches that it is known to render hydrophilic inherently hydrophobic materials such as polypropylene and polyester (Col 5, lines 20-25). As such, from a hydrophilic performance standpoint, hydrophilically treated materials such as polypropylene and

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polyester are equally suitable for any application in the diaper art requiring the use of hydrophilic materials. In view of the foregoing disclosure, it would have been obvious for one of ordinary skill in the art to have utilized hydrophilically treated materials such as polypropylene and polyester to make the hydrophilic top sheet motivated by the desire to make use of a readily available and cost effective material.

### ***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Alex Wachtel, whose number is (703)-306-0320. The Examiner can normally be reached Mondays-Fridays from 10:30am to 6:30pm.

If attempts to reach the Examiner by telephone are unsuccessful and the matter is urgent, the Examiner's supervisor, Mr. Terrel Morris, can be reached at (703) 308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

  
TERREL MORRIS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700